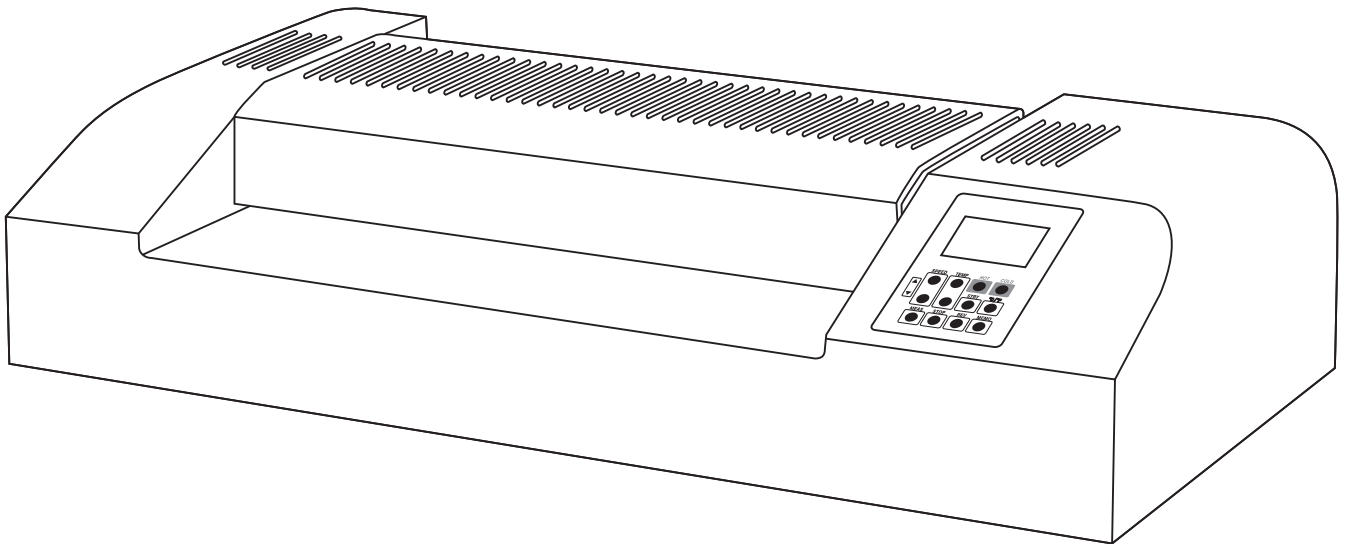


Leon13DX

User Manual



LAMI CORPORATION INC.

2018.01

Introduction

Thank you for purchasing our 【 Leon13DX 】

This "User Manual" is to give you information necessary for safe use of this product.

Before use, read through this manual to make sure that it is properly used.

Maintain this document so that it can be used anytime before or during using the equipment.

Contents

■ Introduction	P 01
└ Contents	P 01
■ Before Use	P 02
└ Definition of Symbols	P 02
└ Precautions for Use	P 03
└ Accessoris	P 04
└ InstallationRecommendations	P 05
└ Transportation and storage	P 06
■ Parts Description	P 07
└ Front view / Rear view	P 07
■ Operation panel	P 08
└ How to use the button	P 08
■ Befor Start Laminating	P 10
└ Laminate Film – Structure and thickness	P 10
└ Laminate Film – Size and Types	P 11
└ What can be laminated ? / Note for use of laminate film	P 12
└ Tips for use	P 13
■ Lamination	P 14
└ Operating steps	P 14
└ Reference materials	P 15
■ Maintenance	P 16
└ Periodical cleaning of rolls	P 16
■ Troubleshooting	P 17
└ The equipment cannot be powered or operated	P 17
└ Poor quality of lamination	P 18
└ The material cannot be conveyed	P 18
■ Others	P 19
└ Product Specifications	P 19
└ Contact	P 19

Before Use

Features

Main features:

- **Precise temperature control**

Uses an internal heating of the roll that assures stable and precise control of the temperature of the roll surface; even for volume production and/or laminating a thicker material, higher laminating quality can thus be obtained.

- **Uses a six-roll system for high-speed processing**

Series-located two pairs of internal heating rolls can assure stable heating of laminate films even at high speed processing. The rolls that provide moderate tension to the film at the downstream end of the film/material path assure an aesthetic finish.

- **Temperature and speed setting**

Temperature and speed settings are independently adjustable to ensure optimum laminating conditions for various laminate film thicknesses and material types.

- **LCD user interface for easier operation**




A front-facing LCD operation panel clearly indicates the current settings and contains controls for changing the settings.








- **Safety**

Comprises COLD button that is to cool the laminate rolls after operation: this function is effective for elongating the life of the rolls

Definition of Symbols









This manual uses different precautionary symbols depending on the level of seriousness of injuries, property damages, and those attributable to failure to observe safety instructions/alerts or inadvertent wrong use.

 Warning	Failure to follow this warning may lead to serious accidents.
 Danger	Failure to follow this warning may lead to death or serious injuries.
 Caution	Failure to follow this caution may lead to injuries and/or property damages.








 Action or instruction to be performed	 Action forbidden
 Remove the power plug from the receptacle	 No disassembly permissible
 Roller pinch hazard	 No contact with wet hand permissible
	 No splash or soak permissible

Precautions for Use

Warning

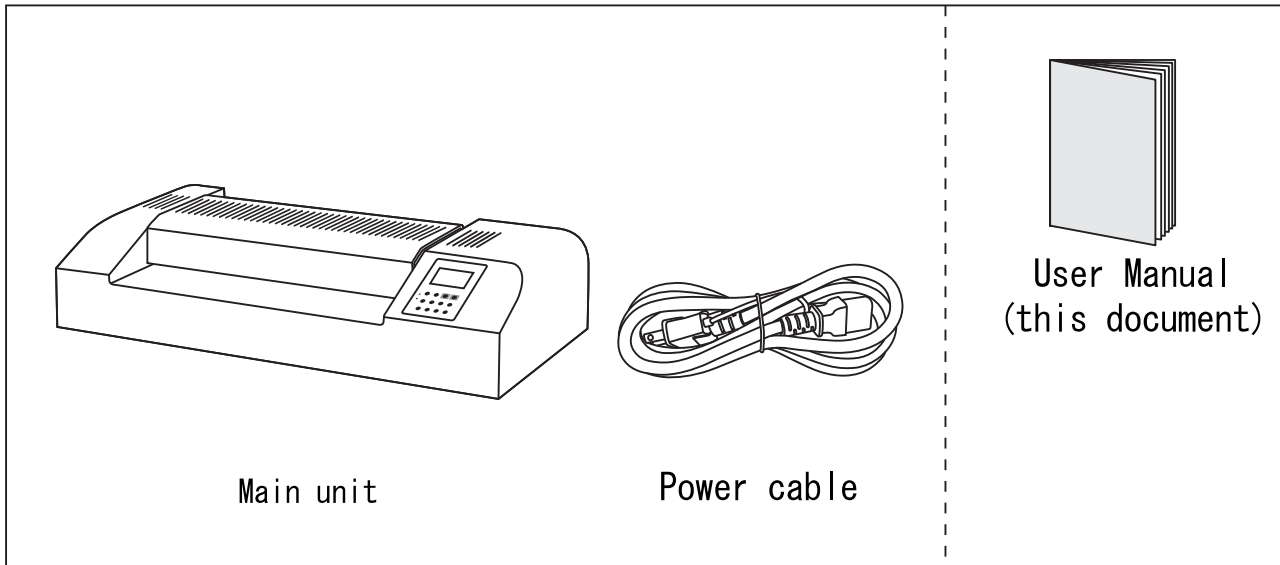
	To remove the plug from the receptacle, hold the plug housing. Do not use other power ratings than that specified. No multiple connections from a single receptacle are permissible. Make sure that the power plug is inserted to the deepest position.
	Do not use damaged power cables. Electric shock or fire may otherwise occur. To handle a power cord, follow the precautions shown below.
	<ul style="list-style-type: none"> - Do not modify power cables. - Do not subject the cable to heavy loads. - Avoid excessive bend, twist, or pull. - Avoid placing the power cable near heating elements or apparatuses.
	* If the power cable fails, contact the seller or our company.
	Clean the power plug periodically. Remove the power plug from the receptacle, and clean the root part of and between the electrodes (blades).
	Avoid high temperature or humid, ill-ventilated, or dusty environment.
	Do not leave metallic things, flammables, or liquid in the equipment. Do not place flammables on the equipment. Do not drop the equipment.
	No dismantling or modification permissible
	Do not use the equipment when it is abnormal e.g. smoking or smelling. The equipment may otherwise cause electric shock or fire to occur. Immediately turn off the power switch and disconnect the power plug. Contact the seller or our company. For reason of safety, no repair by the customer is permissible.

Caution





	For long disuse, remove the power plug from the receptacle.
	Do not use wet hand to remove or insert the plug.
	Before power connection, ground connection should be made. To remove ground connection, make sure that the power connection is already removed.
	Do not install or store the equipment in such a place that can be accessed by children. Avoid unstable (shaking or inclined) floor. The equipment may otherwise fall or tumble down, leading to injury.
	Do not ride on or place a heavy material on the equipment.
	During the machine's operation or your action for inserting a film, your accessories such as necktie and necklace or hair may be caught in the rolls assembly, leading to exposing you to great danger.
	Glue or other contaminants on the surface of the laminate rolls should be soon removed. Wipe with a well-squeezed, neutral detergent soaked cloth. * Do not use solvent (benzene), thinner, brush, etc.
	When not in use, keep the upper roll of the laminate rolls assembly at the raised position. Leaving the pair of the upper and lower rolls contact with each other may lead to the deformation of the rubber rolls at the contact part.
	Avoid direct sunbeams. The rolls made of rubber may otherwise be degraded quickly. When not in use, cover the equipment to prevent it from being directly exposed to sunbeams or fluorescent light beams.
	To move the equipment, turn off the power switch and remove the power plug from the receptacle.

Assembly

The following accessories and documents are contained in the package.
If some of them are missing, contact our sales office or seller.



Label List

▼ Rating label	▼ Warning label	▼ Caution label
		
▼ Earth label		
<div data-bbox="172 1330 520 1375"> ご使用の際は必ずアース接続を行ってください Be sure to be ground connected </div> 		

Installation Recommendations

You should install the equipment where

● Flat, stable floor

Inclined or unstable floor may cause the equipment not to work correctly, leading to poor quality of lamination.

● Dedicated use of power receptacle

Use a receptacle that can be used exclusively for the equipment. Do not use power other than the rating of voltage specified in this User Manual. Ground the equipment, and insert a circuit breaker between the equipment and mains power supply.

● Ample space for the operation of setting laminate films and taking the laminated product out of the equipment

● Dry, well-ventilated area

Humid environment may cause short-circuit or other failures to occur.

Avoid installing the equipment outdoors, or at other locations where the environment can be considered outdoor, or indoor space subject to direct sunbeams or direct exposure to air conditioner's airflow.

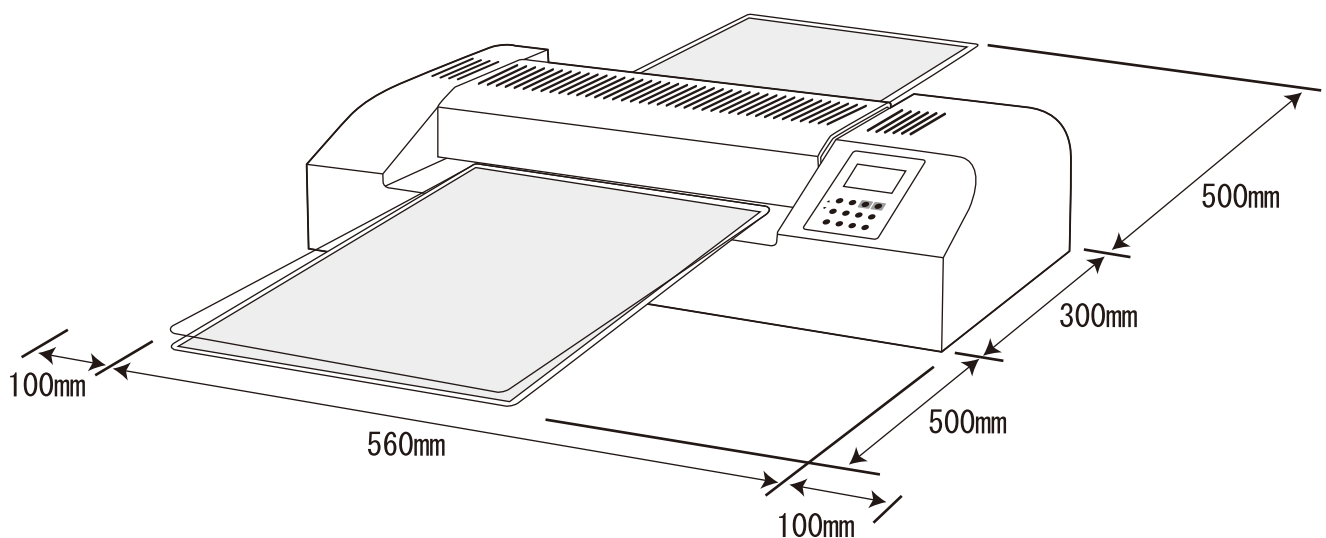
Temperature : 10 to 35°C

Humidity : 20 to 60%

※Even in the case of satisfactory location that can satisfy the conditions shown above, the equipment may not work properly dependent of the type and nature of the laminate films and material to be laminated. The operating environment should be appropriate for the laminate films and material actually used.

● Operability

For convenience of normal use and maintenance, there should be the following space around the equipment.



- Front: at least 500 mm (for laminating A3-size papers)
- Rear: at least 500 mm (for laminating A3-size papers)
- Both sides: at least 100 mm

Transportation and Storage

To move or store the equipment, use the following instructions.

Cautions for transportation

- ① Make sure that the roll temperature has decreased enough to turn off the power.
- ② Turn off the power.
- ③ Remove the power plug from the wall outlet and then disconnect the power cable from the equipment.
- ④ Hold the equipment firmly with both hands. And move it.
 - ※ Soon after operation, the bottom part of the equipment may be still hot. Check for high temperature.
- ⑤ See Page 5 for instructions for installation.

ons for storage

- ① Make sure that the roll temperature has decreased enough to turn off the power.
- ② Turn off the power.
- ③ Remove the power plug from the wall outlet and then disconnect the power cable from the equipment.
- ④ Make sure that the equipment has been cooled to the ambient temperature. Then contain it in a special box.
 - ※ If such a box is unavailable, cover the equipment to prevent entry of dust into the equipment. Before covering, make sure that the equipment has been cooled to the ambient temperature.

Parts Description

Front view

Top cover

Transparent top cover,removable

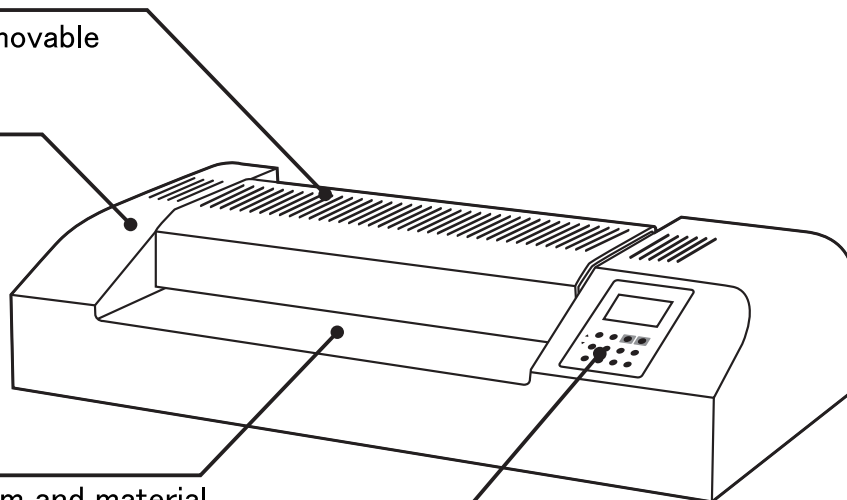
Main unit cover

Inlet

Insert a set of laminate film and material

Operation panel

Temperature and speed setting;
they are indicated on LCD panel



Rear view

Power switch

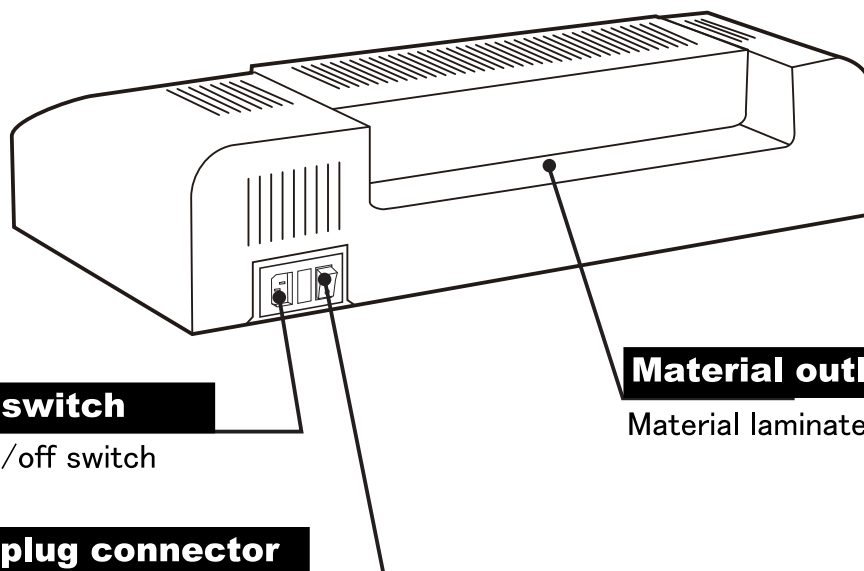
Power on/off switch

Power plug connector

Insert the power plug supplied.

Material outlet

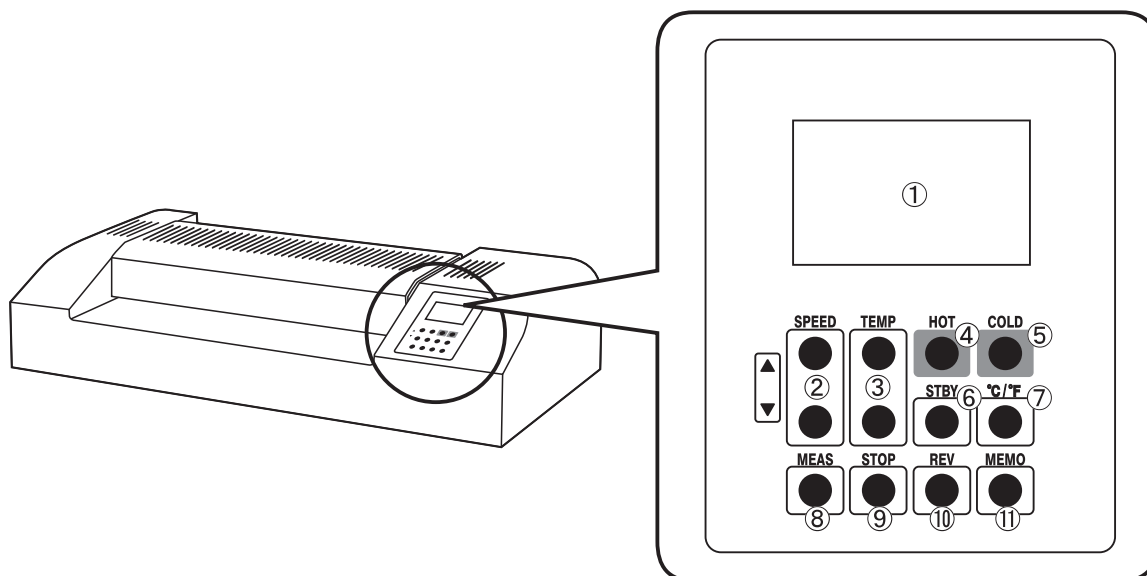
Material laminate will be discharged



Operation panel

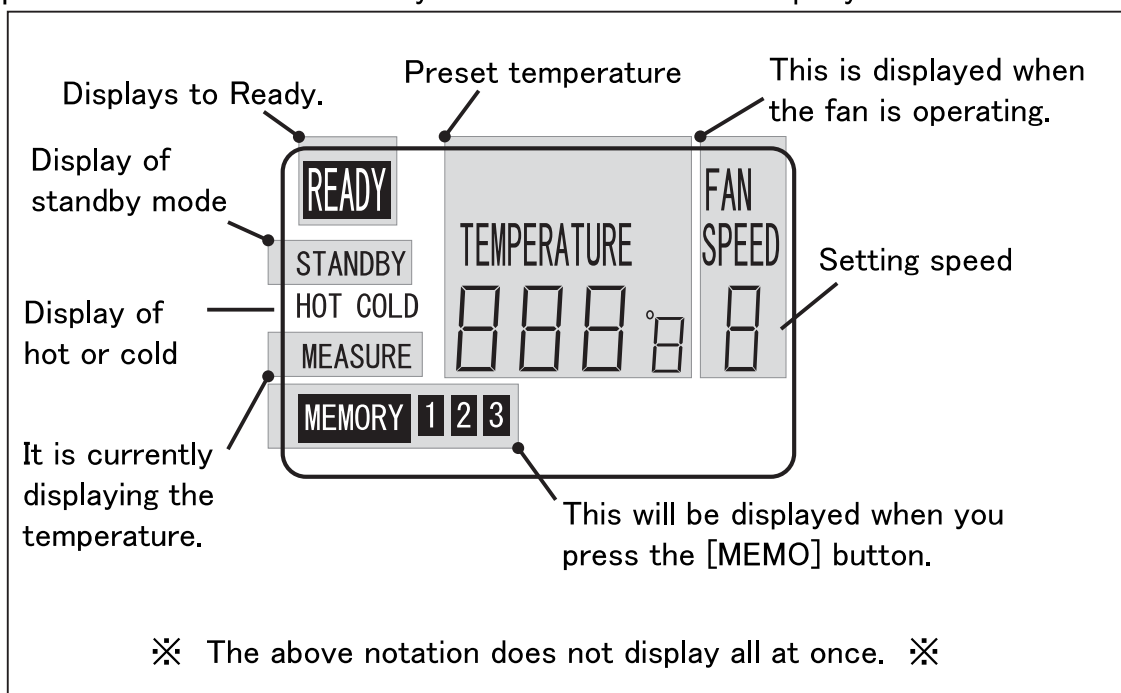
Various buttons description

All operation of the machine is done with the button below.



① LCD panel

Temperature setting, speed setting, fan status, and displays the current state of the roller. When I get an error is displayed on the LCD panel in use, make a note of the contents, please contact us immediately to the dealer or the Company.



② Speed control button

And speed control in the up and down buttons.

③ Temperature control button

And temperature control in the up and down buttons.

④ HOT button

Switches to the HOT mode, 100 degree temperature, is set to speed 6.

When you press the button to start the warm-up.

Beep will sound when it comes to the set temperature.

⑤ COLD button

Switches to the COLD mode, stop the roller heating, speed is set to 5.

⑥ STBY button

Enters the standby state, the roller temperature will be 80 degrees.

⑦ Celsius Fahrenheit switch button

⑧ MEAS button

Displays the current roller temperature.

⑨ Pause button

Temporarily stopping the roller.

For a long time to HOT mode is to stop the roller, it can cause roller damage.

For a long time, please do not stop the roller.

⑩ REV button

It is reversely rotating the roller.

Please use when engulfed.

⑪ MEMO button

You can call the settings that are registered in this machine.

1 : 120°C speed 7

2 : 130°C speed 5

3 : 140°C speed 3

If the current temperature is low, the roller does not rotate to warm.



Caution

Please do not change the settings during processing.

Because the heat is not uniform, you can not clean processing. There is also a possibility that the entrainment occurs.

Before Start Laminating

Laminate Film – Structure and Thickness

There are two types of laminate film – roll and pack.

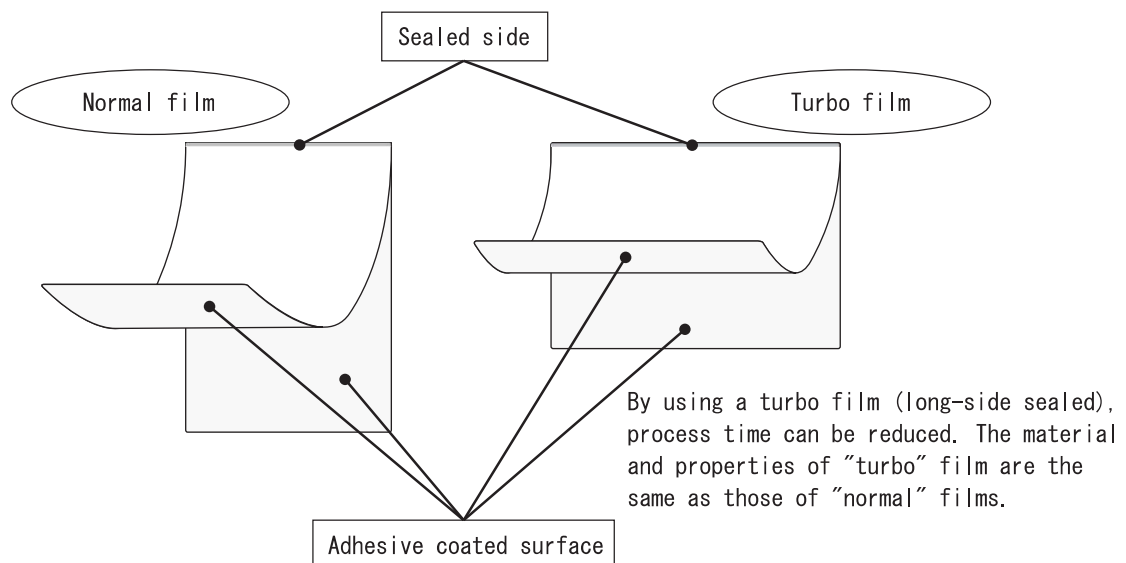
This machine (Leon13DX) uses “pack type” film.

This machine is unavailable for roll type films.

Structure

A pack type laminate film consists of two sheets sealed (connected) together at one side (edge) only, with adhesive coated between the two sheets. When the film is conveyed through the laminator, the adhesive coated inside will be melted by heat, which results in adhesion between the two sheets.

The side (edge) on which the two sheets are sealed (connected) is normally the shorter side, but films with a sealed edge at the longer side are also available (long-side sealed/turbo film).



! Caution

- To insert a laminate film (pair of two sheets) into the laminator, orient it so that the sealed edge leads (enters first). Reverse orientation may cause the film to wind round the roll, leading to machine failure.

Film thickness

The thickness is indicated on one of the paired film sheets. For a normally used film of 100μ in thickness, the post-processed total thickness is:

Approximate total thickness =
 100μ (upper sheet) + Material thickness + 100μ (lower sheet)

Available laminate film sheet thickness:

50μ , 80μ , 100μ , 150μ , 200μ , 250μ , 350μ

Appropriate thickness can be chosen depending on the use of the product. For example, food menus and POPs normally use 100μ thick films.

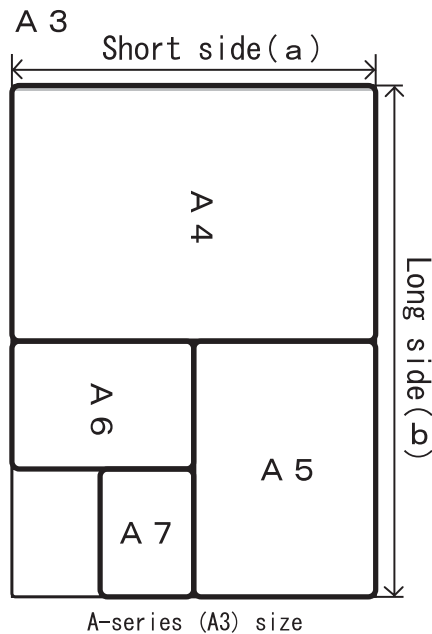
Laminate Film – Size and Types

Standard sizes and special (customized) sizes are available.

Standard sizes

■ Standard laminate film size

They range from a card size (55 mm x 85 mm to 100 mm x 146 mm) to A3-size (303 mm x 426 mm).
JIS (Japanese Industrial Standard) based sizes available include A-series and B-series as shown below.



A/B-series laminate film sizes [(a) × (b) mm]			
A 3	303 mm × 426 mm	B 4	263 mm × 370 mm
A 4	216 mm × 303 mm	B 5	188 mm × 263 mm
A 5	154 mm × 216 mm	B 6	134 mm × 188 mm
A 6	111 mm × 154 mm	B 7	97 mm × 134 mm

Laminate films are 3 mm larger than the corresponding JIS standard sizes (A3 to B5) with respect to every side.

JIS A3 size : 297 mm × 420 mm

↓

Film A3 size : 303 mm × 426 mm

Therefore, to insert a material between laminate sheets, adjust the relative position so that a margin of about 3 mm can be made at every side.

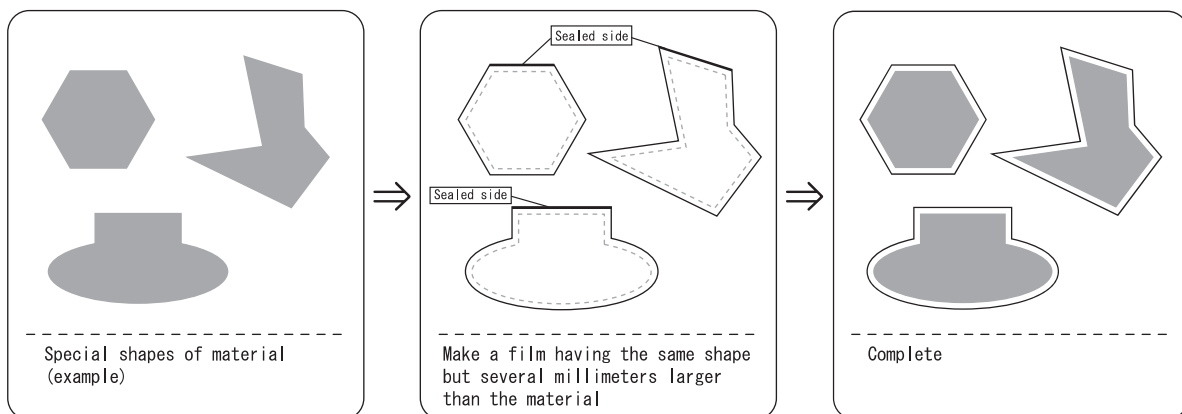
※ Note that there is a different film size of 5 mm larger than the corresponding JIS size with respect to every side.

Special (customized) sizes

■ What are special (customized) sizes?

They are, as opposed to JIS Standard based laminate film sizes, special sizes each customized to the size of the material to be laminated.

They are normally sized 3 to 5 mm larger than the material to be laminated. As well as rectangles and squares, any shape of laminate film, including e.g. L-PRE, can be used on condition that the upper and lower sheets should be sealed (connected) together at any of one side (edge). For inquiries about the details and preparation of customized films, consult the seller of this equipment.



What can be laminated?

Types of materials that can be laminated depend on the type of the laminator used. This laminator, using an internal heating structure of laminate rolls, can laminate also photographs and color prints, but cannot laminate the following material due to the laminating system employed.

- Written in crayon (some types of crayon may be liquefied by heating)
- Heat sensitive paper (the hot rolls may discolor the paper)
- Pressure sensitive paper (the roll pressures may discolor the paper)
- Heat sensitive papers and pressure sensitive papers or other materials subject to deformation or break due to heat or pressure
- Other than paper (possible cause of mechanical damage)

Notes for use of laminate film

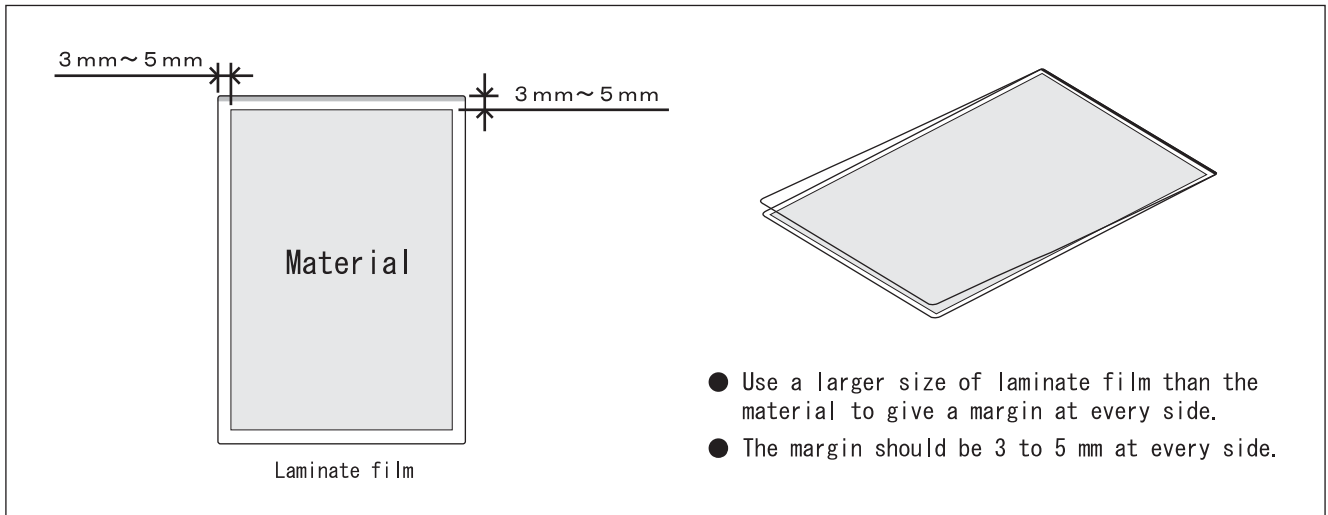
- Do not store or place at high temperature or humid environment.
- Store in a box.
- Use laminate films applicable for the equipment.
- If you found a film defective, do not use it. Contact the seller.
(Using a defective film may cause the equipment to fail.)

Tips for use

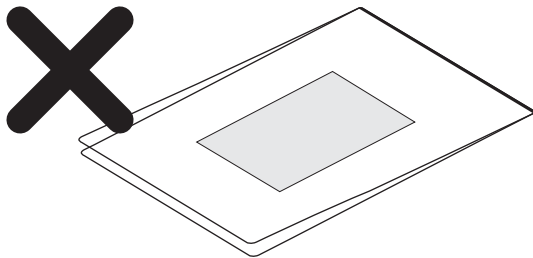
Use a laminate film applicable for this equipment.

Leon13DX can use laminate films ranging from a card size (※) to A3 size (See Page 11.). Using other films may lead to poor lamination quality or failure of the equipment. Follow the instructions shown below.

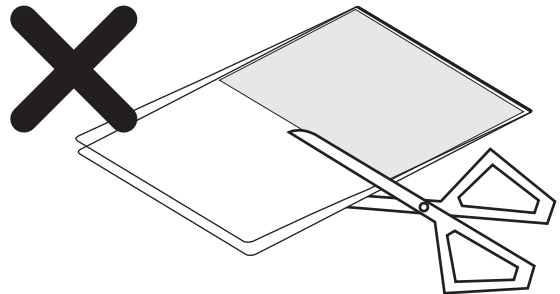
※ Films sizes smaller than the card size (100 mm) may cause difficulty in taking the laminated product out of the equipment.



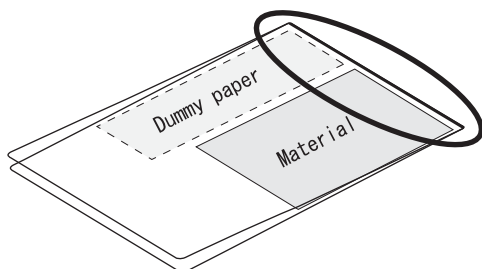
Avoid the following use



Small material at the center of the film
(possibly leading to entanglement)



Cut film (possibly leading to entanglement)
If you need cutting a film, do it after lamination.



To laminate a small material, position it as close to the sealed side (edge) of the laminate film as possible. If the material is too small to occupy a sufficient length of the sealed side, insert a dummy paper next to the material.

Lamination

Operating steps

lamination process should use the following steps.

Preparation for the equipment

- ① Placed in the perfect place, turn on the power switch.
- ② Set the roll heating temperature.
- ③ Start heating. Check that the roll surface reaches the target temperature.

Set the laminate speed

Film thickness	Thickness of material	Temperature	Speed
1 0 0 μ	Thin (about 80 g/ m ² : e.g. copy paper)	1 0 0 °C	6 ~ 7
	Medium (about 120 g/ m ² : e.g. catalogue)	1 0 0 °C	6 ~ 7
	Thick (about 200 g/ m ² : e.g. food menu)	1 2 0 °C	3 ~ 5
1 5 0 μ	Thin (about 80 g/ m ² : e.g. copy paper)	1 0 0 °C	5 ~ 6
	Medium (about 120 g/ m ² : e.g. catalogue)	1 1 0 °C	3 ~ 5
	Thick (about 200 g/ m ² : e.g. food menu)	1 2 0 °C	2 ~ 4
2 0 0 μ	Thin (about 80 g/ m ² : e.g. copy paper)	1 1 0 °C	3 ~ 4
	Medium (about 120 g/ m ² : e.g. catalogue)	1 3 0 °C	4 ~ 5
	Thick (about 200 g/ m ² : e.g. food menu)	1 4 0 °C	3
2 5 0 μ	Thin (about 80 g/ m ² : e.g. copy paper)	1 2 0 °C	3 ~ 4
	Medium (about 120 g/ m ² : e.g. catalogue)	1 4 0 °C	4 ~ 5
	Thick (about 200 g/ m ² : e.g. food menu)	1 4 0 °C	2

This table is for reference only. The actual setting of these parameters should be determines case by case depending on the material to be laminated.

To determine setting of these temperature and speed parameters appropriate for the material to be laminates,see also the next and later pages.

Preparation for the material to be laminated

- ① Check the material size.
- ② Select a laminate film sheets appropriiaite for the material.
- ③ Insert the material between the laminate film sheets.

Lamination

Make sure the test processing, please processed.

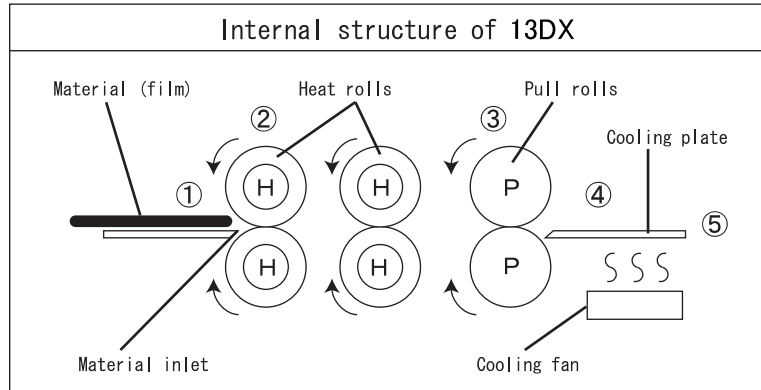
- ① The sealed side should lead.
- ② Since the laminated workpiec̃e is hot, please be careful when handling.
- ③ Laminated workpiece, please put on a flat surface until the heat cools down.

End of operation

Ending the operation by immediately turning off the power switch may lead to the failure or damage of the laminate rolls.To avoid this, cool down the laminate rolls using [COLD]button and then switch off the power.

For reference

Temperature and speed settings are important for achieving high quality lamination. As well as the recommended values of these two parameters shown in the table in Page 14, the following instructions are useful for satisfactory operation.



Flow of material/film

- ① Insert a set of film and material from the inlet.
- ② The set of film and material passes through two pairs of rolls that have been heated by internal heater. The rolls' surface temperature is approximately the same as the target temperature you specified via the operation panel. The heat transmitted from the rolls melts the adhesive coated on the inside surface of the films, which result in adhesion between the two film sheets (the films are slightly softened).
- ③ The set of film and material then passes through a pair of pull rolls. They moderately pull the set of film and material while cooling it (the softened film will be hardened).
- ④ The set of film and material is further cooled by the cooling fan and cooling plate.
- ⑤ The set of film and material is discharged out.

Points

When passing through the heat rolls, the laminate film will be softened by the heat given from the rolls. Excessive heat may cause the film to wind round the rolls

→ Entanglement

Thinner material and/or laminate film does not need so much heat as thicker ones do, so that the conveying speed should be faster (or the roll surface temperature should be decreased)

→ Too low conveying speed may lead to entanglement

By contrast, thicker material and/or laminate film needs higher heat, which means that too large conveying speed may lead to insufficient melt of the adhesive and resultantly opaque-looking finish. In this case, the conveying speed should be decreased so that heat can be given to the film more (or the roll surface temperature should be raised).

Based on the guide shown in the table in Page 14, appropriate temperature and speed settings should be determined dependent of the material to be laminated.

Maintenance

Periodical cleaning of rolls

The equipment comprises 6 roll assemblies. They should be periodically cleaned to ensure the proper performance of the equipment and high quality of lamination. The cleaning intervals should be determined based on the operating demand of the equipment.

Cleaning method

- Prepare a thick paper e.g. drawing paper (note: some of the pack type laminate films manufactured by our company contain cleaning papers applicable for this purpose).
- The paper should have a size of 30 cm x 30 to 50 cm, and the thickness should be 250 to 300 g/m².
- Set the laminate temperature to 100 to 120°C.
- When the temperature rises to the specified value, set the speed to [1] or [2].
- Insert the paper into the equipment through the laminate film/material inlet.
- Stains, including adhesive residues, left sticking to the surface of the rolls will be transferred to the paper.
- Repeat the above steps two or three times.
- Complete of cleaning

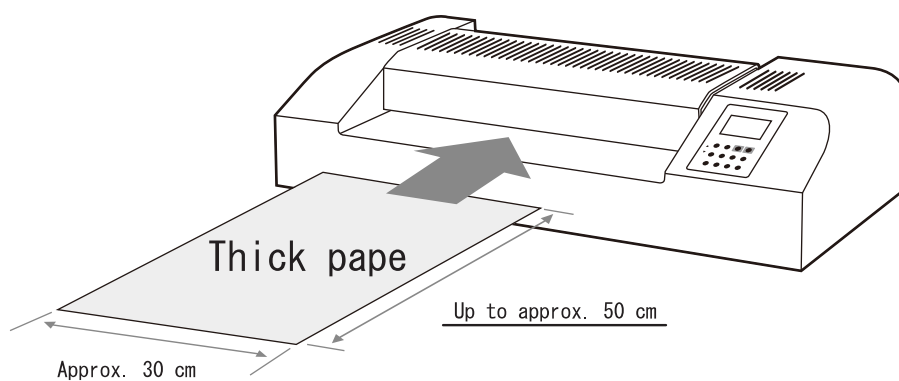
To ensure higher cleaning effectiveness, cleaning should be performed at intervals of every 100 to 200 laminate films processed.

※ Stained papers or thicker than 3 mm should not be used, the equipment may otherwise be damaged.

※ No liquid cleaners/detergents or abrasive cleaners are acceptable for cleaning the rolls or unit's main body, they may otherwise be damaged.

Temperature setting : 100°C

Speed setting : [1] or [2]



Troubleshooting

Important check points for ensuring the proper operation of the equipment are shown below.

The equipment cannot be powered or operated.

- **Check the power plug connection and power switch.**

The equipment uses 230VAC. Check that the power cable is properly connected to the wall outlet. Check that the power cable is properly connected to the power socket on the rear side of the equipment. Check that the power switch located on the rear side of the equipment is turned on. Damaged power cables should be replaced: contact the seller or our company.

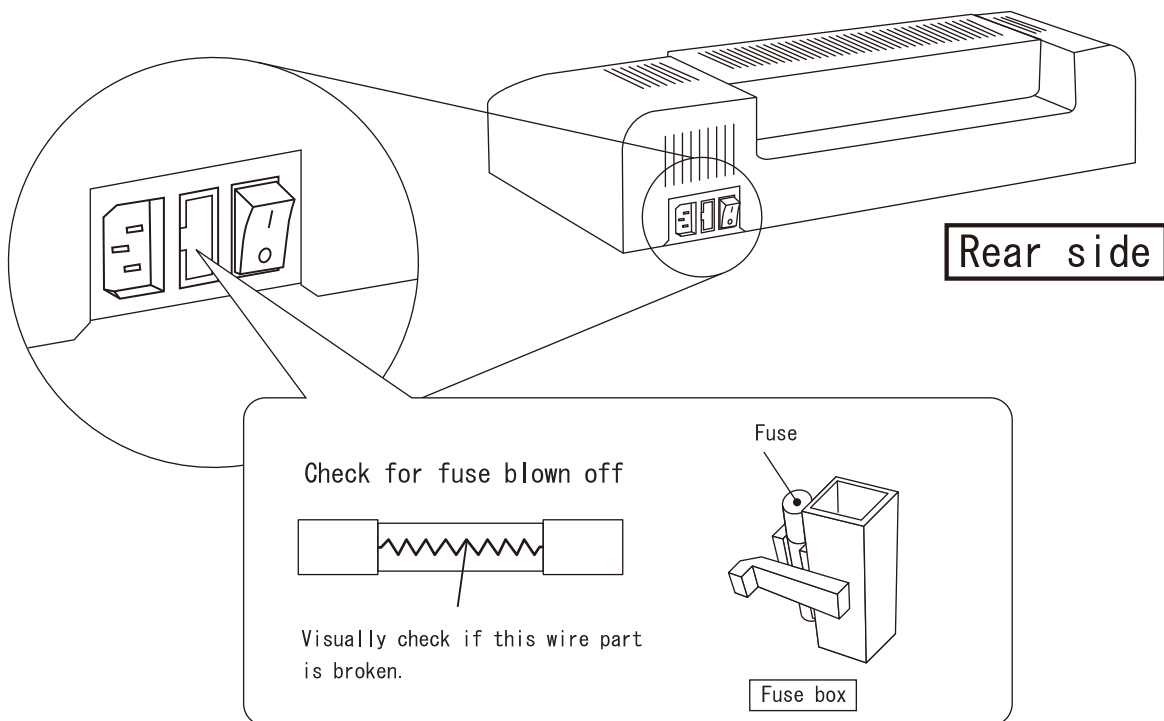
- **Check the fuse**

See the fuse box on the rear side of the equipment. Check whether the fuse is blown off.

Using a minus (–) screwdriver, open the fuse box.

Check if the working fuse (located front) is blown off (broken).

If so, replace the fuse with the spare. Then power on again.



- **Large loads such as heaters and projectors are being used near the equipment, or a long power cable (drummed) is used for powering the equipment.**

Disconnect those loads from the power supply being connected to the equipment. Remove the drummed long cable.

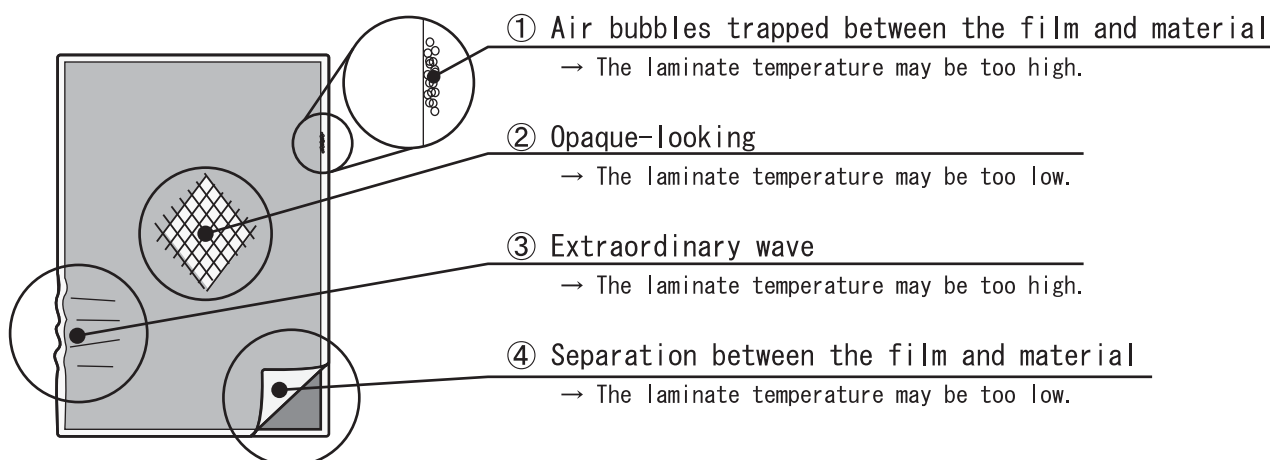
- **Abnormal motor noise**

Possible causes include damaged gears and loosened screws. Contact the seller or our company.

Poor quality of lamination

● Check the temperature and speed setting

See Page 14 to check whether the temperature and speed are set correctly per the laminate film and material used. Improper settings may result in poor quality of lamination, as shown below.



Laminate temperature too low

With too low laminate temperature, the adhesive may not melt well, which results in opaque-looking finish and/or separation of the film from the material. Slightly increase the temperature or decrease the laminate speed to give sufficient heat to the film/material to ensure an appropriate level of melting of the adhesive.

- ※ You cannot rework the laminated material.
- ※ Increase or decrease the temperature in steps of 5°C.
- ※ If the trouble persists, there may be some other causes.
Contact the seller or our company.

Laminate temperature too high

With too high laminate temperature, the adhesive may boil and bubble and the film may be softened and waved. Slightly decrease the temperature or increase the laminate speed to reduce heat to be given to the film/material.

- ※ You cannot rework the laminated material.
- ※ Increase or decrease the temperature in steps of 5°C.
- ※ If the trouble persists, there may be some other causes.
Contact the seller or our company.

The material cannot be conveyed.

● Too thick material?

Inserting a material of larger thickness may lead to roller's incapability of rotation, or failure of the equipment.
do not insert materials thicker than the maximum allowable thickness.
if it has been set to [0], correct the setting.

● Film or material entangled by the rolls?

If the material is left in the entrance, remove it using [REVERSE] button. Take care not to pull the material too strongly. The equipment may otherwise be damaged. If the material is not left in the entrance, contact the seller or our company.

Others

Product Specifications

Maximum laminate width	A3 - size (320mm)
Maximum laminate thickness	250 μ
Laminate speed	MAX 1.4 m/min
Laminate temperature	Room temperature to 140°C
Heating system	Internal heating of rolls
Power	AC230 V 50/60 Hz
Maximum power consumption	1150W
Dimension (W×D×H)	558 x 280 x 133 (mm)
Weight	About 15 kg
Warm up time	About 5 minutes

Please note that for product improvement
We may change the contents of this manual without notification



LAMI CORPORATION INC.

URL <http://www.lami-corporation.co.jp>